BOCAGIANA

Museu Municipal do Funchal

Madeira 26. I. 1973 No. 32

CONTRIBUTIONS TO THE FLORA OF MADEIRA

With 5 figures

By ALFRED HANSEN *

This floristic paper, based on investigations on the island mostly in the summer 1971, should be considered a continuation of 4 similar papers all published in the same journal during the years 1968-1971 (Bocagiana *15*, 1968, *19*, 1969, *25*, 1970 and *27*, 1971).

PTERIDOPHYTA

ASPIDIACEAE

Cyrtomium falcatum (L. f.) C. Presl *(Polystichum* f. (L. f.) Diels) — Subspontaneous in Ribeira de Caixa near Estreito de Câmara de Lobos, 1971. New to Madeira. A native of East Asia, well known from the Azores, and from Tenerife among the Canary Islands (Lid 1968).

OPHIOGLOSSACEAE

Ophioglossum azoricum C. Presl. — Abundant on pavement on park-road in Monte above Funchal, 1971. A rare plant on Madeira, thus Romariz (1953) mentions only 3 localities. Mainly an Atlantic species, spread from East Greenland and Iceland (near hot springs) to the Canary Islands and the Cape Verde Islands, also in W and C Europe.

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SPERMATOPHYTA

ALISMATACEAE

Alisma lanceolatum With. — In Ribeira de S. João where it runs into the sea in Funchal Harbour, 1971. Seems to be a rare plant on Madeira, by Menezes (1914) mentioned only from Santana, North coast.

AMARANTHACEAE

Amaranthus spinosus L. — Roadside at Ponta da Cruz, Praia Formosa, west of Funchal, 1971. New to Madeira. An annual weed and probably a native of tropical America, but now a widespread cosmopolitan species in the tropics and subtropics of the whole world. As far as known hitherto not recorded from the other Macaronesian Islands, but known as a casual in several European countries.

AMARYLLIDACEAE

Haemanthus cf katherinae Baker. — Observed as an escape from culture in São Vicente, North coast, by H. Nielsen, Holbaek, 1971. A native of S Africa.

BORAGINACEAE

Heliotropium amplexicaule Vahl *(H. anchusaefolium* Poiret). — A weed in flower-beds in the new park near the Casino, above the Funchal Harbour. Mentioned in author's paper (1968) as referred to *H. ramosissimum* (Lehm.) DC. *(H. bacciferum* Forssk.), and then a plant new to Madeira found for the first time in Funchal 1962. Thus this species has to be deleted from the flora of Madeira (main island), but it is also known from the isle of Porto Santo (Pickering 1962, also collected by the author in 1969). *H. amplexicaule* is a native of South America (Brazil, Uruguay, Argentina, Bolivia), introduced as a weed and established in some places in North America — but hitherto not known as an introduced plant in Europe or on the other Macaronesian Islands.

Myosotis silvatica Ehrh. — Observed in the «Forest Park» or «Nature Reserve for native Madeira-Plants» in Ribeiro Frio, 1971, probably as an escape from culture, but quite established. Euroasiatic species, distributed also in Morocco and the Canary Islands. New to Madeira.

CARYOPHYLLACEAE

Illecebrum verticillatum L. — In dry river bed in Ribeira de Caixa near Estreito de Câmara de Lobos, 1971. A rather rare plant on Madeira, mostly recorded from the interior heights.

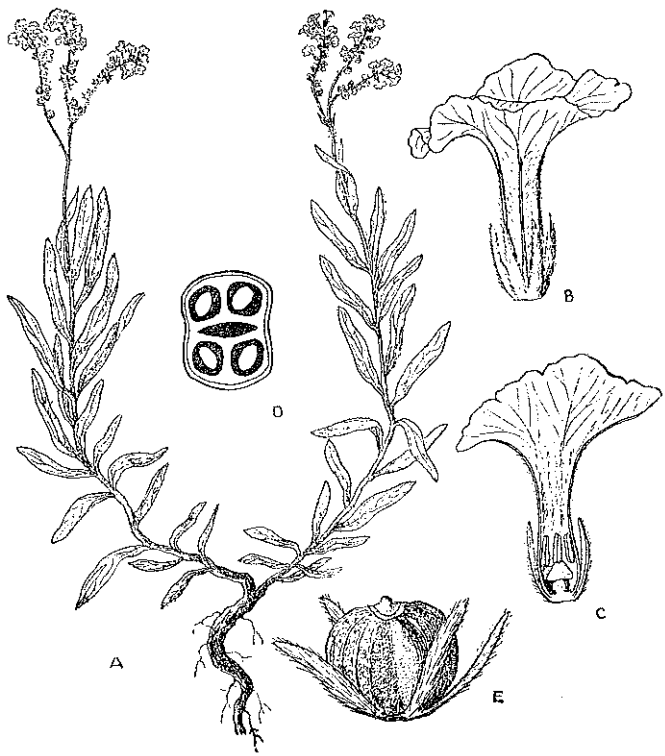

Fig. 1 — *Heliotropium amplexicaule* Vahl: A, plant; B, flower; C, longitudinal section of flower; D, transverse section of the ovary; E, fruit. (From: *A. L. Cabrera,* Flora de la Provincia de Buenos Aires, part 5, 1965).

CHENOPODIACEAE

Atriplex. — Besides *A. triangularis* Willd. (see Hansen 1969) another species belonging to this genus seems to exist on Madeira, viz. *A. prostrata* Boucher, a West and Northwest European plant. In 1971 it was collected on shingle on the shore at Madalena do Mar, South coast west of Ribeira Brava (a narrow-leaved form). Known also from the Azores (Hansen 1971).

Fig. 2 — *Erigeron floribundus* (H. B. & K.) Sch. Bip. (From: Henderson & Anderson: Common weeds in South Africa, 1966).

COMPOSITAE

Aster squamatus (Spreng.) Hier. — Since 1969, when this species was observed for the first time on Madeira (on roadsides in the village Ponta do Sol, South coast west of Funchal, Hansen 1970), it has managed to extend its area essentially eastwards. Thus in 1971 it was observed in several places along the coast-road connecting Ponta do Sol and Tabua.

Conyza. — Besides the well-known species *C. bonariensis* (L.) Cronq. and *C. canadensis* (L.) Cronq., a third, originally introduced but now established species, *C. floribunda* HBK. *(Erigeron floribundus* (HBK.) Sch. Bip.), is present on Madeira. It was recorded in 1970 from Fajã da Nogueira and in 1971 from roadsides near the airport of Santa Cruz. A native of S. America, now a cosmopolitan weed; occurs also on the Canary Islands, but hitherto often confused with *C. bonariensis. C. naudinii* Bonnet, described from the south of France with unknown origin (Bonnet 1878) is most likely to be a synonym.

Eclipta prostrata (L). L. *(E. alba* (L.) Hassk.) — At the edge of a little pond at Madalena do Mar, South coast. A rare, introduced and established plant, a native of tropical America and now a cosmopolitan weed. Known on Madeira since Lowe's days.

Eupatorium riparium Regel. — This American plant first recorded on Madeira by Krauss (1963): «Along a path near Monte» (according to G. Maul, Funchal this locality is situated at Fundoa, Ribeira de Sta. Luzia, where the plant was still growing in 1970), was observed in 1971 in great abundance along a path in Ribeira de João Gomes, east of Monte. It is also known from La Palma among the Canary Islands. Recently it has been referred to the new genus *Ageratina: A. riparia* (Regel) King & Robinson (1970).

Gnaphalium. — Besides the common *G. luteo-album* L. another *Gnaphalium*-species has been accepted for Madeira, viz. the so-called *G. purpureum* L. with the synonyms *G. spathulatum* Lam. and *G. pensylvanicum* Willd. (Hansen 1969a). However, according to Drury (1971) *G. purpureum* and *G. pensylvanicum* represent two well-defined and different species, both of American origin, but now wide-spread outside their native areas. The plant found on Madeira is in fact *G. pensylvanicum,* which was observed there for the first time by Lowe in Caminho do Vale at Funchal in 1830 (as a weed in a box of *Hoya carnosa!* Lowe 1857/72). Menezes (1914) still calls it a rare plant only known from «Lugares incultos e ruas do Funchal». In 1969 it was observed along a levada in Ribeira da Janela and at Achadas da Cruz (both NW Madeira), and most probably it has now a wider distribution on the island. It is also known on the Canary Islands (Hansen 1972). *G. purpureum* is known on the Azores; this plant is a perennial, while *G. pensylvanicum* is an annual.

CONVOLVULACEAE

Dichondra micrantha Urban *(D. repens* auct. non J. R. & G. Forster). — The following are new finds: On pavement in a park-road in Monte above Funchal, and on road-side in Ribeiro Frio near the «Old Trout Inn», both 1971. Earlier reported only from the Funchal-region (since 1868, see Hansen 1968), but now probably wide-spread throughout the island. According to Lawalrée (1970) true *D. repens* J. F. & G. Forster is strictly confined to SE Australia, Tasmania and New Zealand, while *D. micrantha* is a widespread, cosmopolitan species in the warmer regions of the world. It is a native of East Asia (China, Taiwan, Korea, Japan).

Ipomoea ochracea (Lindl.) G. Don. — This African species recorded for the first time as an introduced plant on Madeira in 1969 (Funchal Harbour-area, Hansen 1970) has a wider distribution in the vicinity of Funchal, viz. on a waste place at Ponta da Cruz (near a sawmill), Praia Formosa west of Funchal, where it was observed in abundance in 1971. Most likely it is in bloom most of the year, producing an abundance of seeds capable of germinating.

CRUCIFERAE

Draba muralis L. — Slope at Pico do Gato between Pico do Arieiro and Pico Ruivo, in about 1800 m, 1971. A rare plant on Madeira and only found in high altitudes.

GENTIANACEAE

Centaurium tenuiflorum (Hoffmsg. & Lk.) Fritsch. — A new find of this rare plant — see Hansen (1970) — was made in 1971 in a well at Caniço, here abundant.

GERANIACEAE

Pelargonium vitifolium (L.) l'Hérit. ex Ait. — Subspontaneous on roadside in Ribeira de João Gomes east of Monte. A shrubby, Citrus-scented plant with rose-coloured flowers, a native of South Africa, and on Madeira most likely an escape from cultivation. New to Madeira.

GRAMINEAE

Bromus molliformis Lloyd. — The plant material recorded from Madeira as belonging to *Bromus mollis* L. (Menezes 1914: Common on Madeira, aslo found on Porto Santo and Ilheu Chão, Desertas) most likely has all to be referred to the closely related species *B. molliformis,* a common Mediterranean species. The following finds are at present known to the author: Roadside at Monte above Funchal, 1971; along the

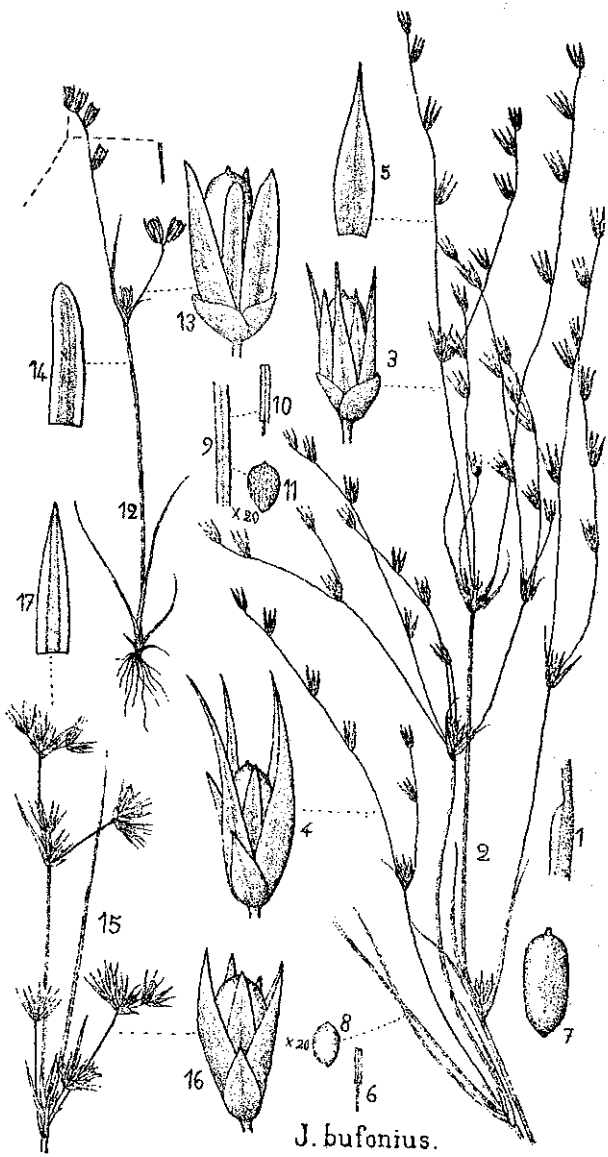

Fig. 3 — 1-8: *Juncus bufonius* L.; 9-11: *J. foliosus* Desf.; 12-14: *J. rararius* Song & Perr.; 15-17: *J. hybridus* Brot. (From *T. Husnot:* Joncées. 1908.)

path between Pico do Arieiro and Pico Ruivo, near Pico do Gato, 1971.

Catapodium marinum (L.) C. E. Hubb. *(Glyceria loliacea* (Huds.) Wats., *Catapodium loliaceum* (Huds.) Link). — This short grass from habitats near the sea has hitherto been reported on Madeira only from Lugar de Baixo (Menezes 1914). In 1969 it was also collected on the Ilheu Chão, Desertas. Further, two species of this genus are represented in the Madeiran flora, viz. *C. rigidum* (L.) C. E. Hubb. (rare on Madeira, but common on Porto Santo), and *C. tenellum* (L.) Trab. *(Nardurus lachenalii* (Gmel.) Godr.), known only from the highest peaks on Madeira; a record from Desertas (Chão) refers to *C. marinum* (Hansen 1970).

Eleusine tristachya (Lam.) Lam. — A new find of this scarce grass (introduced but quite established) has been made on a roadside at the airport of Santa Cruz, 1971.

Gaudinia fragilis (L.) PB. — In a flower-bed in the new park near the Casino above Funchal harbour, 1971. Known as a Madeiran plant since 1954 (Malato-Beliz 1958, Hansen 1970), but hitherto found only in the Machico-Caniçal-area to the east.

Setaria geniculata (Lam.) PB. — Two new finds of this scarce grass were collected from a roadside at the Sanatorium of Monte above Funchal and from roadsides at the airport of Santa Cruz, both 1971. This plant is obviously on continuous dispersal on Madeira, see Hansen (1968, 1971).

Vulpia myura (L.) C. C. Gmel. — Along the foot-path between Pico do Arieiro and Pico Ruivo, near Pico do Gato, 1971. Seems to have been recorded only once before from Madeira, viz. by Menezes (1927), collected in Ribeira da Janela by J. G. da Costa in 1924. A plant of the Mediterranean area.

JUNCACEAE

Juncus hybridus Brot. *(J. bufonius* L. var. *congestus* Wahlb.). — On meadow near the mainroad Machico-Caniçal, just east of the new tunnel, East Madeira, 1969. New to Madeira. A plant distributed in the Mediterranean Region, S Asia and S Africa.

Juncus foliosus Desf. *(J. bufonius* L. ssp. *foliosus* (Desf.) Maire & Weill.). — In a ditch along the mainroad at Achadas da Cruz, West Madeira, 1969. A plant with West Mediterranean distribution.

Luzula congesta (Thuill.) Lej. *(L. multiflora* (Retz.) Lej. ssp. *congesta* (Thuill.) Hyl.). — Collected in a park- or gardenlike area (much neglected but quite a natural woodland area) near the church of Monte above Funchal, 1971; another find has been made along the levada at Queimadas above Santana, also in 1971. A Boreal-Atlantic species in Europe, given once from Madeira by Bornmüller (1903): Torrinhas, in silvis regionis subalpinae, 1300 m, No. 1276, identified as *L. campestris*

(L.) DC. var. *congesta* Buchenau; Bornmüller stayed on Madeira in the years 1900 and 1901, but it has not been mentioned by Menezes f. inst. (1914) and later authors. However, in a paper from 1909 Menezes entertained the idea, that *L. multiflora* might very well belong to the Madeiran flora.

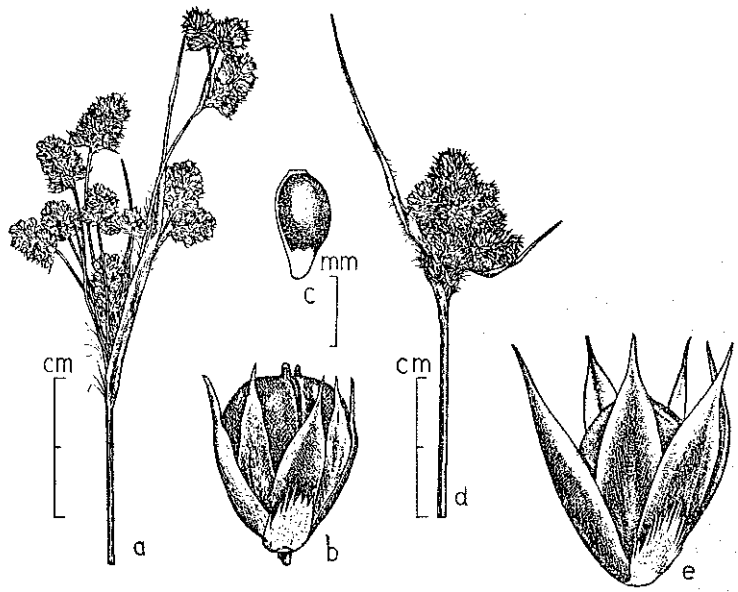

Fig. 4 — a-c: *Luzula multiflora;* d-e: *L. congesta.* (From: Flora Neerlandica I (6), 1964 (Ooststroom & Reichgelt)).

LEGUMINOSAE

Lathyrus aphaca L. — In a flower-bed in the new park near the Casino above Funchal harbour, 1971. Seems to be a rare plant on Madeira, thus given by Menezes (1914) only from Caniço and Monte, both finds from Lowe's days.

Lathyrus articulatus L. *(L. clymenum* L. ssp. *articulatus* (L.) Bory). — Waste place at Ponta da Cruz, Praia Formosa, west of Funchal, and in Monte above Funchal, both 1971. Seems to be a rare plant on Madeira, thus Menezes (1914) mentions it only from Gorgulho; it is more common on Porto Santo.

Psoralea americana L. — A few specimens were observed on a slope by the sea at Ponta da Cruz, Praia Formosa, West of Funchal,

in 1971. Thus this plant still remains as a rarity in this area, where Lowe used to find it, viz. : «Borders of cornfields and amongst corn in all the district between Ribeiro Seco and the Praia Formosa below 500 ft., not seen elsewhere». (Lowe 1857/72). This plant has certainly been forced out by the still growing capital and has now become very rare. It is a native of the West Mediterranean area, and most likely once introduced into Madeira.

Vicia capreolata Lowe. — Climbing in other vegetation along the levada from Queimadas; rare, endemic annual given only from a few localities on Madeira and Chão (Desertas).

Vicia pubescens (DC.) Link. — Monte above Funchal 1971. A plant that has not been collected much or even seen on Madeira; thus Menezes (1914) cites only two localities on the authority of Lowe, both collections from the year 1862 (Lowe 1857/72).

MORACEAE

Ficus pumila L. — Subspontaneous in the creeping stage rooting flat to walls in Monte above Funchal, 1971. A popular, ornamental fig from SE Asia and Australia.

OENOTHERACEAE

Epilobium tetragonum L. ssp. *tetragonum* has been accepted as rare on Madeira by Menezes (1914). In the Ribeira Brava Valley, just near the mouth, the author could collect both ssp. *tetragonum* and ssp. *lamyi* (F. W. Schultz) Nyman. The last mentioned ssp. has also been observed between Camacha and Choupana in 1969, and in Fajã da Nogueira in 1970.

PAPAVERACEAE

Eschscholtzia californica Cham. — Observed as an escape from cultivation on road-slopes at the airport of Santa Cruz, 1971. A native of the South Western United States of America; also known as a garden-escape on the Canary Islands.

ROSACEAE

Pyrus pyraster (L.) Burgsd. *(P. communis* auct. non L.). — Observed on a slope to the sea at Pináculo east of Funchal, 1969. Most likely an escape from cultivation, and seems to be new to Madeira. A native of S, C and W Europe.

Rosa stylosa Desv. — On roadside in Ribeiro Frio and in hedge in Ribeira de João Fringo between Santo da Serra and Camacha, 1971. A rare, white-flowered, native Rose known from a few localities at higher altitudes in Madeira. An older find is in the Copenhagen Herbarium,

viz. Pico do Arieiro, in *Vaccinium maderensis*-thickets, 1902, leg. M. Vahl. It has its main-distribution in Western Europe from England to NW Spain and NW Italy. Together with another rare Madeira-Rose, *Rosa mandonii* Desg., an endemic species described in 1873, it belongs to the section Caninae.

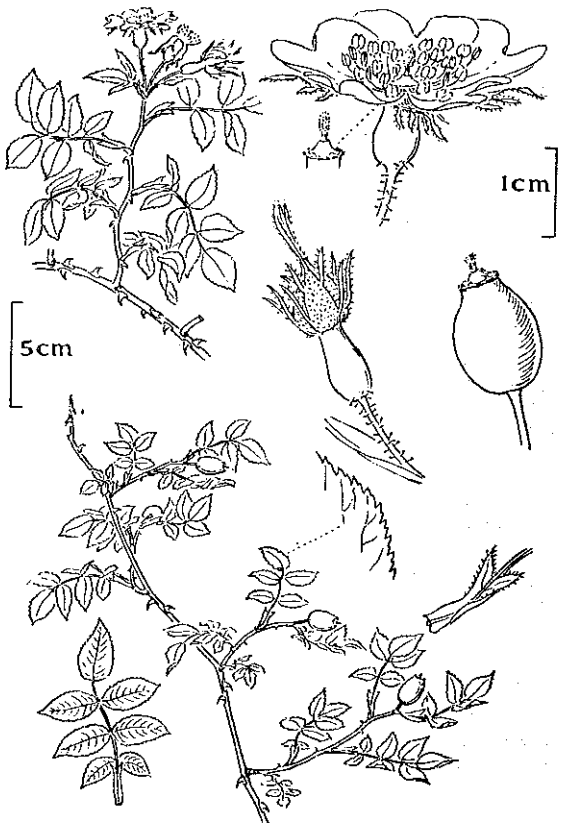

Fig. 5 — *Rosa stylosa* Desv. White or pale pink (From: Clapham, Tutin & Warburg, Flora of the British Isles. Illustrations II, 1960).

SCROPHULARIACEAE

Veronica persica Poiret. — In the author's paper (1970) 5 localities for this plant were listed. In 1971 it was also observed in Funchal: Waste place at the harbour near the mouth of the Ribeira de S. João. It may be found now in a number of other places throughout the island.

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